Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-199

Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)

As of FY 2019 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Sensitivity Originator

No originator info Available at this time.

Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)

DoD Component

Air Force

Joint Participants

US Navy (E-6 TACAMO aircraft); US Navy (Ground Terminals); US Army (Ground Terminals)

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References

CPT

SAR Baseline (Production Estimate)

Under Secretary of Defense (Acquisition, Technology & Logistics) Approved Acquisition Program Baseline (APB) dated March 3, 2016

Approved APB

Under Secretary of Defense (Acquisition, Technology & Logistics) Approved Acquisition Program Baseline (APB) dated March 3, 2016

FET

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 3, 2016

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 3, 2016

Mission and Description

The Family of Advanced Beyond Line-of-Sight Terminals (FAB-T) program will develop nuclear event-survivable terminals capable of communicating with the Milstar and Advanced Extremely High Frequency (AEHF) satellite constellations using both the Extremely High Frequency and AEHF jam-resistant, low probability of intercept and low probability of detection waveforms. These terminals will be an essential component of the strategic nuclear execution system.

The Command Post Terminal (CPT) subprogram provides a nuclear survivable terminal capable of communicating with the Milstar and AEHF satellites from airborne and ground fixed and mobile locations, provides an interface for the Presidential and National Voice Conferencing (PNVC) function; the Telemetry, Tracking & Control for the Milstar and AEHF constellations, for Nuclear Command, Control, & Communications (NC3) data transport services [Emergency Action Message (EAM) injection, dissemination and reportback], and for Integrated Tactical Warning and Attack Assessment survivable data relay. The CPT will replace existing Milstar-only terminals for ground fixed and mobile command locations, as well as in the airborne E-4B and E-6 aircraft.

The Force Element Terminal (FET) subprogram provides a nuclear survivable terminal capable of communicating with the Milstar and AEHF satellites, and provides for survivable NC3 data transport services (EAM dissemination and force reportback) for airborne platforms. The FET is for the B-2, B-52, and select RC-135 aircraft and will not provide satellite control or PNVC functionality. The initial installation and integration is a significant effort with antenna configurations which may differ from one aircraft type to another.

Executive Summary

The FAB-T program made significant progress during CY 2017. However, cumulative delays in developmental qualification of the five FAB-T configurations, production qualification testing for the first LRIP terminals, and fielding will preclude the program from meeting the Initial Operational Test and Evaluation (IOT&E) completion and FRP events. In addition, operational availability prioritization over replacing legacy capability will prevent the E-6 and E-4 airborne platforms from being able to install the appropriate number of FAB-T terminals to achieve FAB-T IOC and FOC on time. Therefore, an APB schedule breach was declared in April 2017. The program anticipates approval of a revised APB in early CY 2018. This did not negatively impact ongoing program execution.

The program resolved the production qualification test issues reported in last year's SAR clearing the way for delivery of the first LRIP terminal with antenna modification kit to the N404 test aircraft at Hanscom Air Force Base, MA in May 2017. The program completed the first flight test with this terminal in July 2017, successfully demonstrating the airborne CPT's ability to acquire satellites and maintain a communication link while tracking Advanced Extremely High Frequency (AEHF) and Milstar satellites through standard operational aircraft maneuvers, as well as the ability to continue operations while transitioning between satellites and satellite beams.

The program's second terminal was installed in October 2017. This was the first production Ground Fixed terminal with antenna modification kit and was used to successfully conduct additional Telemetry, Tracking, and Control (TT&C) testing in November 2017. The 46th Test Squadron conducted this event on both test and operational networks, successfully verifying FAB-T's capabilities to perform all roles in AEHF and Milstar constellation management.

In addition, the contractor completed development of the new FAB-T Ground Fixed Antenna configuration, and the program received MDA approval in May 2017 to procure this configuration as well as additional airborne terminals with antenna modification kits to maintain the fielding schedule.

To date, there are a total of 42 LRIP terminals on contract of which eight have been delivered.

The contractor is nearly complete with development of the Ground Transportable Antenna and the program will pursue MDA approval to procure this configuration in 2nd quarter FY 2018.

The FAB-T program office continues to maintain focus on completing development of the new Airborne Antenna development of the new Airborne Antenna, which is the last of five FAB-T configurations, to support a production decision in 4th quarter FY 2018, and conducting site visits in preparation for fielding the initial terminals on order.

The FAB-T program led a complex multi-Major Command (MAJCOM) effort this year to develop the FAB-T FET Cost Capability Analysis (CCA) to refine the Satellite Command (SATCOM) materiel solution for the B-52, RC-135, and Tanker platforms, and inform future budget inputs. The CCA effort concluded in December 2017, and the FET team's focus for FY 2018 is to define the acquisition strategy in preparation for a Materiel Development Decision.

The program was designated as an ACAT IC program as of November 30, 2017 with MDA transitioning from USD(AT&L) to the Assistant Secretary of the Air Force (Acquisition).

There are no significant software-related issues with this program at this time.

Threshold Breaches

CPT

APB Breaches		
Schedule		☑
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

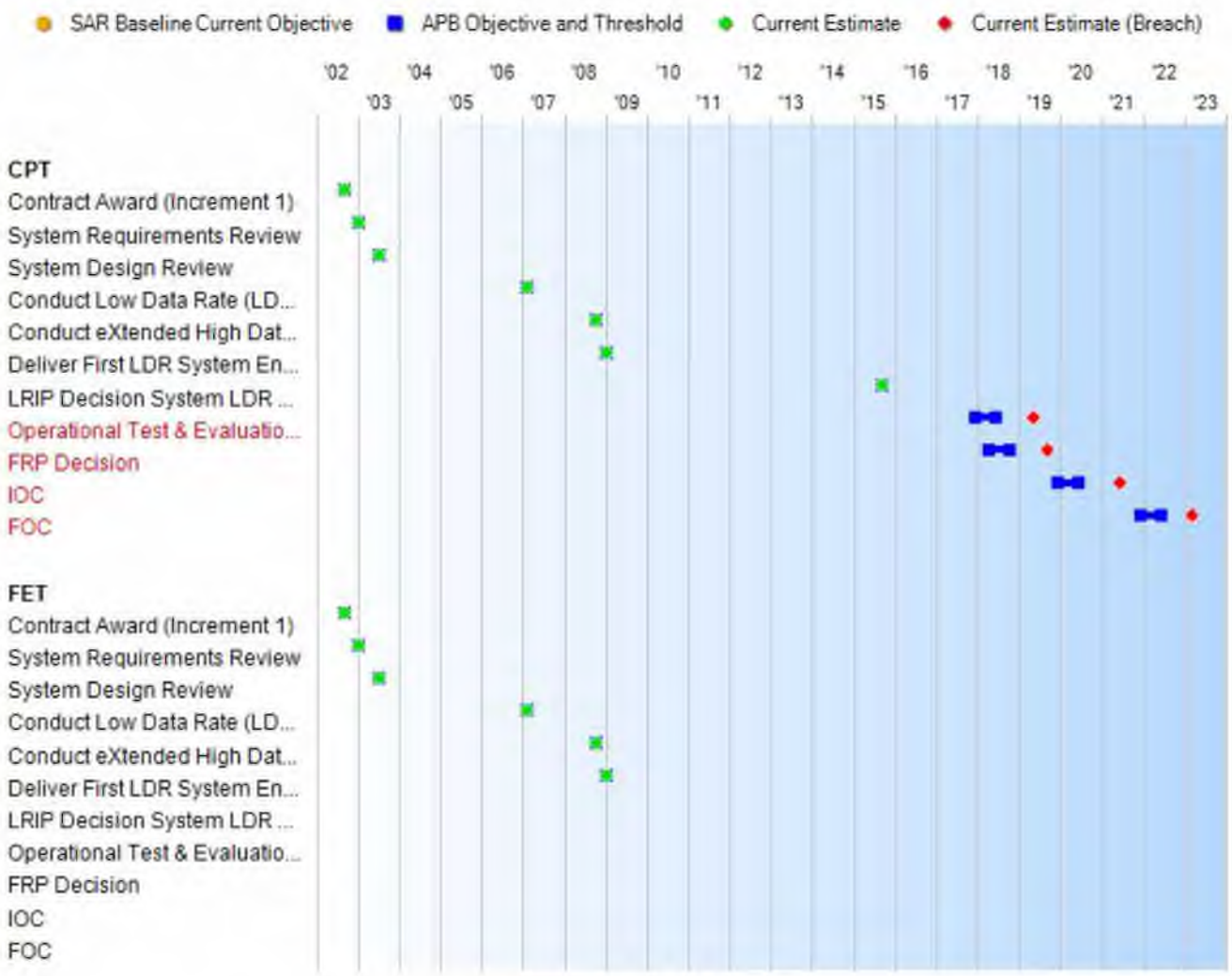
The schedule breach was previously reported in the December 2016 SAR.

FET

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule


SAR Baseline Current Objective
APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'02
'03
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'09
'10
'11
'12
'13
'14
'15
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'22
'23
CPT
Contract Award (Increment 1)
System Requirements Review
System Design Review
Conduct Low Data Rate (LD...
Conduct eXtended High Dat...
Deliver First LDR System En...
LRIP Decision System LDR ...
Operational Test & Evaluatio...
FRP Decision
IOC
FOC
FET
Contract Award (Increment 1)
System Requirements Review
System Design Review
Conduct Low Data Rate (LD...
Conduct eXtended High Dat...
Deliver First LDR System En...
LRIP Decision System LDR ...
Operational Test & Evaluatio...
FRP Decision
IOC
FOC

CPT

Schedule Events					
Events	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	
Contract Award (Increment 1)	Sep 2002	Sep 2002	Sep 2002	Sep 2002	
System Requirements Review	Jan 2003	Jan 2003	Jan 2003	Jan 2003	
System Design Review	Jul 2003	Jul 2003	Jul 2003	Jul 2003	
Conduct Low Data Rate (LDR) System Critical Design Review (CDR)	Feb 2007	Feb 2007	Feb 2007	Feb 2007	
Conduct eXtended High Data Rate (XDR) System CDR	Oct 2008	Oct 2008	Oct 2008	Oct 2008	
Deliver First LDR System Engineering Development Model (EDM)	Jan 2009	Jan 2009	Jan 2009	Jan 2009	
LRIP Decision System LDR and XDR	Sep 2015	Sep 2015	Sep 2015	Sep 2015	
Operational Test & Evaluation (OT&E) Complete	Dec 2017	Dec 2017	Jun 2018	**May 2019**[1]	(Ch-1)
FRP Decision	Apr 2018	Apr 2018	Oct 2018	**Sep 2019**[1]	(Ch-2)
IOC	Dec 2019	Dec 2019	Jun 2020	**Jun 2021**[1]	(Ch-3)
FOC	Dec 2021	Dec 2021	Jun 2022	**Mar 2023**[1]	(Ch-4)

[1] *APB Breach*

Change Explanations

(Ch-1) IOT&E completion current estimate changed from April 2019 to May 2019 due to delays in FAB-T development qualification of the five configurations, production qualification testing for the first low rate initial production terminals, and fielding.
(Ch-2) FRP Decision current estimate changed from June 2019 to September 2019 due to delays in FAB-T development qualification of the five configurations, production qualification testing for the first low rate initial production terminals, and fielding.
(Ch-3) IOC current estimate changed from December 2019 to June 2021 as a result of Operational Availability prioritization over replacing legacy capability which will prevent the E-6 and E-4 platforms from being able to install the appropriate number of FAB-T terminals to achieve FAB-T IOC on time.
(Ch-4) FOC current estimate changed from December 2021 to Mar 2023 as a result of Operational Availability prioritization over replacing legacy capability which will prevent the E-6 and E-4 platforms from being able to install the appropriate number of FAB-T terminals to achieve FAB-T FOC on time.

Acronyms and Abbreviations

AEHF - Advanced Extremely High Frequency
CDR - Critical Design Review
EHF - Extremely High Frequency
IOT&E - Initial Operational Test & Evaluation
LDR - Low Data Rate
TO - Technical Order
TT&C - Telemetry, Tracking & Control
XDR - eXtended Data Rate

FET

Schedule Events					
Events	SAR Baseline Development Estimate	Current APB Production Objective/Threshold		Current Estimate	
Contract Award (Increment 1)	Sep 2002	Sep 2002	Sep 2002	Sep 2002	
System Requirements Review	Jan 2003	Jan 2003	Jan 2003	Jan 2003	
System Design Review	Jul 2003	Jul 2003	Jul 2003	Jul 2003	
Conduct Low Data Rate (LDR) System Critical Design Review (CDR)	Feb 2007	Feb 2007	Feb 2007	Feb 2007	
Conduct eXtended High Data Rate (XDR) System CDR	Oct 2008	Oct 2008	Oct 2008	Oct 2008	
Deliver First LDR System Engineering Development Model (EDM)	Jan 2009	Jan 2009	Jan 2009	Jan 2009	
LRIP Decision System LDR and XDR	TBD	TBD	TBD	TBD	(Ch-1)
Operational Test & Evaluation (OT&E) Complete	TBD	TBD	TBD	TBD	(Ch-1)
FRP Decision	TBD	TBD	TBD	TBD	(Ch-1)
IOC	N/A	N/A	N/A	N/A	(Ch-2)
FOC	N/A	N/A	N/A	N/A	(Ch-2)

Change Explanations

(Ch-1) The FET subprogram schedule for LRIP, IOT&E, and FRP are TBD at this time. Preliminary program funding for a notional FET program was provided in the FY 2019 PB. The FET CCA concluded in December 2017 and is the first step in informing the acquisition strategy.
(Ch-2) The AWT ORD for the capability now known as FET, approved March 29, 2004, established the IOC/FOC criteria as 20% and 85% (respectively) of the platforms are modified. Platforms will determine IOC and FOC criteria and dates.

Acronyms and Abbreviations

CDR - Critical Design Review
EDM - Engineering Development Model
FOC - Full Operational Capability
FRP - Full Rate Production
IOC - Initial Operational Capability
IOT&E - Initial Operational Test & Evaluation
LDR - Low Data Rate
LRIP - Low Rate Initial Production
OT&E - Operational Test & Evaluation
XDR - eXtended Data Rate

Performance

CPT

Performance Characteristics				
SAR Baseline Production Estimate	**Current APB Production Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
Network Ready: The system must support Net-Centric military operations. The system must be able to enter and be managed in the network, and exchange data in a secure manner to enhance mission effectiveness. The system must continuously provide survivable, interoperable, secure, and operationally effective information exchanges to enable a Net-Centric military capability.				
The FAB-T system must support net-centric military operations, enter and be managed in the network, and exchange information as described in Table 6 of the CPD. FAB-T is a BLOS Transport Layer element of communication infrastructures and as such several NR-KPP attributes and measures are described in other KPPs. FAB-T architecture products are compliant with CJCSI 6212.01F dated March 21, 2012.	The FAB-T system must support net-centric military operations, enter and be managed in the network, and exchange information as described in Table 6 of the CPD. FAB-T is a BLOS Transport Layer element of communication infrastructures and as such several NR-KPP attributes and measures are described in other KPPs. FAB-T architecture products are compliant with CJCSI 6212.01F dated March 21, 2012.	(T=O) The FAB-T system must support net-centric military operations, enter and be managed in the network, and exchange information as described in Table 6 of the CPD. FAB-T is a BLOS Transport Layer element of communication infrastructures and as such several NR-KPP attributes and measures are described in other KPPs. FAB-T architecture products are compliant with CJCSI 6212.01F dated March 21, 2012.	Multiple NC3 system-of-systems net-centric test events were performed in FY 2015 and FY 2016. Interoperability testing with legacy AFCPT, NMT, SCAMP, Navy FOT, SMART-T, MMP, MMPU and DMU terminals has been repeatedly performed by the 46th Test Squadron using Milstar and AEHF satellites, and demonstrated while airborne during seven flight test sorties in December 2014 and June 2015, as well as with a production terminal in July 2017. Link quality testing as well as simulated strategic messages have been exchanged via the various formats of EAMs, FDMs, AFRB, NRB, and Milstar-UHF cross-banded DAMA network messages. Each repeated on both Milstar and AEHF (BC-LDR when necessary, DAMA with AFCPT & DMUs via Milstar only). FAB-T successfully	The FAB-T system must support net-centric military operations, enter and be managed in the network, and exchange information as described in Table 6 of the CPD. FAB-T is a BLOS Transport Layer element of communication infrastructures and as such several NR-KPP attributes and measures are described in other KPPs. FAB-T architecture products are compliant with CJCSI 6212.01F dated March 21, 2012.

			managed and participated in all LDR/XDR satellite control networks and exercised all TT&C roles for constellation management during satellite control testing with an Engineering Development Model at Schriever AFB, CO in CY 2016. The program executed the third and final TT&C test event with the recently installed production terminal at Schriever AFB in November 2017 successfully verifying State of Health supports, orbit management ranging, quick look ranging, and over the air rekeying. FAB-T completed EAM interim certification testing in June 2017 that verified the ability of a production FAB-T terminal to send and receive EAMs via LDR services with all fielded AEHF terminals. In addition, the program completed NC3 Phase 2A testing in December 2017 using a production terminal installed in the E-6 Systems Integration Lab at Pax River, an EDM in the Strategic Communications Lab in Bedford, MA, and various EHF terminals across the country, all communicating via test networks on Milstar and AEHF satellites. The 46th Test Squadron is analyzing the test results, but initial feedback indicates		

			FAB-T system maturity is on track for the next segment of NC3 testing, where use of operational networks is planned.	
Strategic Services: FAB-T provides positive control of strategic information exchange.				
Terminals supporting nuclear/strategic operations will enable Emergency Action Message dissemination while meeting the Probability of Correct Message Receipt requirements stated in Appendix F to Enclosure A of CJCSI 6811.01. Terminals will be capable of supporting improved Senior Leadership conferencing. Terminals used for POTUS and SECDEF voice conferencing will support the Milstar and AEHF CONOPS using up to twelve simultaneous voice networks. FAB-T will provide interfaces to support PNVC and Survivable Emergency Conferencing Network equipment. PNVC and SECN equipment are external to the FAB-T. Each nuclear Command Center node must be able to simultaneously support all services assigned to that node/platform as mandated in the Emergency Action Procedures of the Joint Staff Volume VII	Terminals supporting nuclear/strategic operations will enable Emergency Action Message dissemination while meeting the Probability of Correct Message Receipt requirements stated in Appendix F to Enclosure A of CJCSI 6811.01. Terminals will be capable of supporting improved Senior Leadership conferencing. Terminals used for POTUS and SECDEF voice conferencing will support the Milstar and AEHF CONOPS using up to twelve simultaneous voice networks. FAB-T will provide interfaces to support PNVC and Survivable Emergency Conferencing Network equipment. PNVC and SECN equipment are external to the FAB-T. Each nuclear Command Center node must be able to simultaneously support all services assigned to that node/platform as mandated in the Emergency Action Procedures of the Joint Staff Volume VII	(T=O) Terminals supporting nuclear/strategic operations will enable Emergency Action Message dissemination while meeting the Probability of Correct Message Receipt requirements stated in Appendix F to Enclosure A of CJCSI 6811.01. Terminals will be capable of supporting improved Senior Leadership conferencing. Terminals used for POTUS and SECDEF voice conferencing will support the Milstar and AEHF CONOPS using up to twelve simultaneous voice networks. FAB-T will provide interfaces to support PNVC and Survivable Emergency Conferencing Network equipment. PNVC and SECN equipment are external to the FAB-T. Each nuclear Command Center node must be able to simultaneously support all services assigned to that node/platform as mandated in the Emergency Action Procedures of the	Positive control of strategic information exchanges was demonstrated during FAB-T's dedicated NC3 test events performed by the 46th Test Squadron in December 2015 through March 2016. The demonstration included 15 EHF terminals (2 FAB-Ts) securely exchanging information across 17 LDR networks. The FAB-T demonstrated performance exercising EAM, FDM, AF Reportback, Navy Reportback, DAMA, Force Management, SECN, and other LDR directed networks (both operational and emulated) using the relevant cryptographic and baseband devices. Network and communication control functions were exercised with various combinations of members and network manager configurations. FAB-T also demonstrated the capability to simultaneously interface to SECN and PNVC and support strategic voice conferencing over the Milstar and AEHF satellites in August 2016. The program	Terminals supporting nuclear/strategic operations will enable Emergency Action Message dissemination while meeting the Probability of Correct Message Receipt requirements stated in Appendix F to Enclosure A of CJCSI 6811.01. Terminals will be capable of supporting improved Senior Leadership conferencing. Terminals used for POTUS and SECDEF voice conferencing will support the Milstar and AEHF CONOPS using up to twelve simultaneous voice networks. FAB-T will provide interfaces to support PNVC and Survivable Emergency Conferencing Network equipment. PNVC and SECN equipment are external to the FAB-T. Each nuclear Command Center node must be able to simultaneously support all services assigned to that node/platform as mandated in the Emergency Action Procedures of the Joint Staff Volume VII

for Joint Staff directed networks and the USSTRATCOM Network Operating Instruction for USSTRATCOM directed networks. FAB-T Command Center nodes will perform this function with no more than two FAB-Ts.	for Joint Staff directed networks and the USSTRATCOM Network Operating Instruction for USSTRATCOM directed networks. FAB-T Command Center nodes will perform this function with no more than two FAB-Ts.	Joint Staff Volume VII for Joint Staff directed networks and the USSTRATCOM Network Operating Instruction for USSTRATCOM directed networks. FAB-T Command Center nodes will perform this function with no more than two FAB-Ts.	executed the third and final TT&C test event with the recently installed production terminal at Schriever AFB in November 2017 successfully verifying State of Health supports, orbit management ranging, quick look ranging, and over the air rekeying. FAB-T completed EAM interim certification testing in June 2017 that verified the ability of a production FAB-T terminal to send and receive EAMs via LDR services with all fielded AEHF terminals. In addition, the program completed NC3 Phase 2A testing in December 2017 using a production terminal installed in the E-6 Systems Integration Lab at Pax River, an EDM in the Strategic Communications Lab in Bedford, MA, and various EHF terminals across the country, all communicating via test networks on Milstar and AEHF satellites. The 46th Test Squadron is analyzing the test results, but initial feedback indicates FAB-T system maturity is on track for the next segment of NC3 testing, where use of operational networks is planned.	for Joint Staff directed networks and the USSTRATCOM Network Operating Instruction for USSTRATCOM directed networks. FAB-T Command Center nodes will perform this function with no more than two FAB-Ts.
Terminal Survivability: The FAB-T functions through the nuclear environment that the platform must endure.				
The FAB-T does not contribute to the protection of	The FAB-T does not contribute to the protection of	(T=O) The FAB-T does not contribute to the protection of	All FAB-T components have been tested for radiation hardness;	The FAB-T does not contribute to the protection of

personnel or to the survivability of manned systems since it is not an occupied system. Protection for the FAB-T and its crew must be provided by external means (e.g. revetments, concealment, etc.). The manned and direct kinetic aspects of the mandatory Survivability KPP do not apply. The detectability and countermeasure aspects of the Survivability KPP do apply and are defined here as the Terminal Survivability KPP, which has been tailored to the FAB-T mission environment. FAB-T is expected to survive and operate in CBRN environments. As such, the system is designated CBRN Mission Critical IAW DoDI 3150.09. Terminals supporting nuclear operations must be fully mission capable up to the maximum nuclear environment that the platform is expected to survive. Any recovery from circumvention required for a dose rate event will not be part of the EAM transmission timeline.	personnel or to the survivability of manned systems since it is not an occupied system. Protection for the FAB-T and its crew must be provided by external means (e.g. revetments, concealment, etc.). The manned and direct kinetic aspects of the mandatory Survivability KPP do not apply. The detectability and countermeasure aspects of the Survivability KPP do apply and are defined here as the Terminal Survivability KPP, which has been tailored to the FAB-T mission environment. FAB-T is expected to survive and operate in CBRN environments. As such, the system is designated CBRN Mission Critical IAW DoDI 3150.09. Terminals supporting nuclear operations must be fully mission capable up to the maximum nuclear environment that the platform is expected to survive. Any recovery from circumvention required for a dose rate event will not be part of the EAM transmission timeline.	personnel or to the survivability of manned systems since it is not an occupied system. Protection for the FAB-T and its crew must be provided by external means (e.g. revetments, concealment, etc.). The manned and direct kinetic aspects of the mandatory Survivability KPP do not apply. The detectability and countermeasure aspects of the Survivability KPP do apply and are defined here as the Terminal Survivability KPP, which has been tailored to the FAB-T mission environment. FAB-T is expected to survive and operate in CBRN environments. As such, the system is designated CBRN Mission Critical IAW DoDI 3150.09. Terminals supporting nuclear operations must be fully mission capable up to the maximum nuclear environment that the platform is expected to survive. Any recovery from circumvention required for a dose rate event will not be part of the EAM transmission timeline.	and the resulting analysis validated a terminal-level probability of survival. Nuclear Survivability (NSV) testing for LRIP configurations was completed in June 2015. Radiation dose rate testing for all configurations is complete. All FAB-T configurations have passed the required High Altitude Electro-Magnetic Pulse (HEMP) test and evaluation events. A free-field HEMP test event was conducted on the FAB-T by Little Mountain Test Facility and Navy Electromagnetic Environment Effects (E3) test personnel at NAS Pax River, MD in October 2016, verifying the FAB-T operates through threat-level electromagnetic illumination with no interruption to nominal operations.	personnel or to the survivability of manned systems since it is not an occupied system. Protection for the FAB-T and its crew must be provided by external means (e.g. revetments, concealment, etc.). The manned and direct kinetic aspects of the mandatory Survivability KPP do not apply. The detectability and countermeasure aspects of the Survivability KPP do apply and are defined here as the Terminal Survivability KPP, which has been tailored to the FAB-T mission environment. FAB-T is expected to survive and operate in CBRN environments. As such, the system is designated CBRN Mission Critical IAW DoDI 3150.09. Terminals supporting nuclear operations must be fully mission capable up to the maximum nuclear environment that the platform is expected to survive. Any recovery from circumvention required for a dose rate event will not be part of the EAM transmission timeline.
Capacity: Terminals must support data rates required by the airborne platforms and ground terminals missions utilizing the capabilities defined in the AEHF and Milstar Operational Requirements Documents (ORDs).				
The CPT will simultaneously support up to 47	The CPT will simultaneously support up to 47	(T=O) The CPT will simultaneously support up to 47	FAB-T completed Max Capacity (47 services, etc.) and Busy Minute	The CPT will simultaneously support up to 47

services, including up to 30 Transmit/ Receive services, nine receive only services, and eight transmit only services. The terminal will support a cumulative transmit rate of at least 8.100 megabits per second (Mbps) and a cumulative receive rate of at least 17.700 Mbps. Terminals will include all equipment necessary to accept system data at data rates defined in the Milstar and AEHF satellite system ORDs as described in Table 7 of the CPD.	services, including up to 30 Transmit/ Receive services, nine receive only services, and eight transmit only services. The terminal will support a cumulative transmit rate of at least 8.100 megabits per second (Mbps) and a cumulative receive rate of at least 17.700 Mbps. Terminals will include all equipment necessary to accept system data at data rates defined in the Milstar and AEHF satellite system ORDs as described in Table 7 of the CPD.	services, including up to 30 Transmit/ Receive services, nine receive only services, and eight transmit only services. The terminal will support a cumulative transmit rate of at least 8.100 megabits per second (Mbps) and a cumulative receive rate of at least 17.700 Mbps. Terminals will include all equipment necessary to accept system data at data rates defined in the Milstar and AEHF satellite system ORDs as described in Table 7 of the CPD.	test scenarios as well as required data rates during contractor Prime Item functional qualification testing. LDTO testing has further demonstrated the required data rates in both ground and flight testing.	services, including up to 30 Transmit/ Receive services, nine receive only services, and eight transmit only services. The terminal will support a cumulative transmit rate of at least 8.100 megabits per second (Mbps) and a cumulative receive rate of at least 17.700 Mbps. Terminals will include all equipment necessary to accept system data at data rates defined in the Milstar and AEHF satellite system ORDs as described in Table 7 of the CPD.
Sustainment (Materiel Availability): Determined by system downtime, both planned and unplanned, requiring the early examination and determination of critical factors such as the total number of end items to be fielded and the major categories and drivers of system downtime. Per the operational concept, all FAB-T end items will be placed into operational service without terminal-level float spares. Terminal must sustain the overall reliability and availability requirements specified in the AEHF satellite system ORD. The Line Replaceable Units (LRUs) on the antenna system are included in the MRT. MRT does not apply to environments where personnel are required to wear Mission Oriented Protective Posture (MOPP) or cold weather gear.				
The FAB-T must meet the Reliability and Maintainability requirements as follows: Fixed Ground Command Post (CP) – 0.9957 Transportable CP – 0.9920 Airborne CP – 0.9884. MRT is the average on-equipment, organizational level corrective maintenance time to return a system to operational status. MRT (excluding the antenna/ pedestal) should not exceed 30 minutes. MRT will be	The FAB-T must meet the Reliability and Maintainability requirements as follows: Fixed Ground Command Post (CP) – 0.9957 Transportable CP – 0.9920 Airborne CP – 0.9884. MRT is the average on-equipment, organizational level corrective maintenance time to return a system to operational status. MRT (excluding the antenna/ pedestal) should not exceed 30 minutes. MRT will be	(T=O) The FAB-T must meet the Reliability and Maintainability requirements as follows: Fixed Ground Command Post (CP) – 0.9957 Transportable CP – 0.9920 Airborne CP – 0.9884. MRT is the average on-equipment, organizational level corrective maintenance time to return a system to operational status. MRT (excluding the antenna/ pedestal) should not exceed 30	MRT was demonstrated for the Ground Fixed, Ground Transportable and Airborne configurations, and all meet the MRT requirement of 30 minutes or less. The new Airborne antenna will undergo MRT test in Third Quarter FY 2018.	The FAB-T must meet the Reliability and Maintainability requirements as follows: Fixed Ground Command Post (CP) – 0.9957 Transportable CP – 0.9920 Airborne CP – 0.9884. MRT is the average on-equipment, organizational level corrective maintenance time to return a system to operational status. MRT (excluding the antenna/ pedestal) should not exceed 30 minutes. MRT will be

achievable in a deployed environment.	achievable in a deployed environment.	minutes. MRT will be achievable in a deployed environment.		achievable in a deployed environment.
Training				
Using the Instructional Systems Development (ISD) process, the FAB-T program shall deliver a training system capable of developing, conducting, and controlling training without impacting operations. FAB-T training shall naturally extend and be consistent with existing CPT training delivered by Air Education and Training Command (AETC). The training system delivered by the FAB-T Program Office will comprise of technical data necessary for training (e.g. operations, maintenance and equipment manuals and/or TOs), Contract Special Training (Type 1), associated training course material, and installed and functional operational terminal(s) for AETC-provided training. AETC will implement FAB-T initial qualification training and AFSPC will implement unit qualification training. (U) Type 1 Training: Type 1 training shall provide operational and maintenance training to unit	Using the Instructional Systems Development (ISD) process, the FAB-T program shall deliver a training system capable of developing, conducting, and controlling training without impacting operations. FAB-T training shall naturally extend and be consistent with existing CPT training delivered by Air Education and Training Command (AETC). The training system delivered by the FAB-T Program Office will comprise of technical data necessary for training (e.g. operations, maintenance and equipment manuals and/or TOs), Contract Special Training (Type 1), associated training course material, and installed and functional operational terminal(s) for AETC-provided training. AETC will implement FAB-T initial qualification training and AFSPC will implement unit qualification training. (U) Type 1 Training: Type 1 training shall provide operational and maintenance training to unit	(T=O) Using the Instructional Systems Development (ISD) process, the FAB-T program shall deliver a training system capable of developing, conducting, and controlling training without impacting operations. FAB-T training shall naturally extend and be consistent with existing CPT training delivered by Air Education and Training Command (AETC). The training system delivered by the FAB-T Program Office will comprise of technical data necessary for training (e.g. operations, maintenance and equipment manuals and/or TOs), Contract Special Training (Type 1), associated training course material, and installed and functional operational terminal(s) for AETC-provided training. AETC will implement FAB-T initial qualification training and AFSPC will implement unit qualification training. (U) Type 1 Training: Type 1 training shall provide operational and maintenance training to unit	TBD; Training materials are 100% complete; users were heavily involved in development of materials. The first training class was conducted in June 2017 with favorable comments from all students.	Using the Instructional Systems Development (ISD) process, the FAB-T program shall deliver a training system capable of developing, conducting, and controlling training without impacting operations. FAB-T training shall naturally extend and be consistent with existing CPT training delivered by Air Education and Training Command (AETC). The training system delivered by the FAB-T Program Office will comprise of technical data necessary for training (e.g. operations, maintenance and equipment manuals and/or TOs), Contract Special Training (Type 1), associated training course material, and installed and functional operational terminal(s) for AETC-provided training. AETC will implement FAB-T initial qualification training and AFSPC will implement unit qualification training. (U) Type 1 Training: Type 1 training shall provide operational and maintenance training to unit

personnel, test agency personnel, initial AFSPC cadre, and AETC instructors prior to start of OT&E. Type 1 training shall continue until activation of AETC provided training. Training course(s) shall be tailored to meet the learning objectives of each duty position using the most cost-efficient training media, as determined by the AF ISD process. Type 1 training course material shall be delivered in Microsoft Office® editable format to applicable AFSPC and AETC units no later than 30 days after the completion of Type 1 training. Training Equipment and Material: The FAB T Program Office shall provide operational FAB-T hardware, Type 1 training material, and technical data to applicable AFSPC and AETC units for their development and implementation of AETC provided and unit qualification training. The operational hardware will be capable of performing 90% of operational tasks identified in the ISD process.	personnel, test agency personnel, initial AFSPC cadre, and AETC instructors prior to start of OT&E. Type 1 training shall continue until activation of AETC provided training. Training course(s) shall be tailored to meet the learning objectives of each duty position using the most cost-efficient training media, as determined by the AF ISD process. Type 1 training course material shall be delivered in Microsoft Office® editable format to applicable AFSPC and AETC units no later than 30 days after the completion of Type 1 training. Training Equipment and Material: The FAB T Program Office shall provide operational FAB-T hardware, Type 1 training material, and technical data to applicable AFSPC and AETC units for their development and implementation of AETC provided and unit qualification training. The operational hardware will be capable of performing 90% of operational tasks identified in the ISD process.	personnel, test agency personnel, initial AFSPC cadre, and AETC instructors prior to start of OT&E. Type 1 training shall continue until activation of AETC provided training. Training course(s) shall be tailored to meet the learning objectives of each duty position using the most cost-efficient training media, as determined by the AF ISD process. Type 1 training course material shall be delivered in Microsoft Office® editable format to applicable AFSPC and AETC units no later than 30 days after the completion of Type 1 training. Training Equipment and Material: The FAB T Program Office shall provide operational FAB-T hardware, Type 1 training material, and technical data to applicable AFSPC and AETC units for their development and implementation of AETC provided and unit qualification training. The operational hardware will be capable of performing 90% of operational tasks identified in the ISD process.		personnel, test agency personnel, initial AFSPC cadre, and AETC instructors prior to start of OT&E. Type 1 training shall continue until activation of AETC provided training. Training course(s) shall be tailored to meet the learning objectives of each duty position using the most cost-efficient training media, as determined by the AF ISD process. Type 1 training course material shall be delivered in Microsoft Office® editable format to applicable AFSPC and AETC units no later than 30 days after the completion of Type 1 training. Training Equipment and Material: The FAB T Program Office shall provide operational FAB-T hardware, Type 1 training material, and technical data to applicable AFSPC and AETC units for their development and implementation of AETC provided and unit qualification training. The operational hardware will be capable of performing 90% of operational tasks identified in the ISD process.

Requirements Reference

CPD dated August 5, 2015

Change Explanations

None

Acronyms and Abbreviations

AEHF - Advanced Extremely High Frequency
AETC - Air Education and Training Command
AFCPT - Air Force Command Post Terminal
AFRB - Air Force Report Back
AFSPC - Air Force Space Command
APS - Advanced Polar System
ASMCS - AEHF Satellite Mission Control Subsystem
BC - Backwards Compatible
BLOS - Beyond Line-of-Sight
C3 - Command, Control and Communications
CBRN - Chemical, Biological, Radiological, and Nuclear
CJCSI - Chairman of the Joint Chiefs of Staff Instruction
CMS - Constellation Management System
CONOPS - Concept of Operations
CPD - Capabilities Production Document
CPT - Command Post Terminal
DAMA - Demand Assignment Multiple Access
DCMA - Defense Contract Management Agency
DIACAP - DoD Information Assurance Certification & Accreditation Process
DIRECT - Defense IEMATS Replacement Command and Control Terminal
DMU - Dual Modem Unit
DoDI - Department of Defense Instruction
E3 - Electromagnetic Environment Effects
EAM - Emergency Action Message
EDM - Engineering Development Model
EHF - Extremely High Frequency
FAB-T - Family of Advanced Beyond Line-of-Sight Terminals
FDM - Force Direction Message
FET - Force Element Terminal (formerly known as Airborne Wideband Terminal, or AWT)
FMC - Fully Mission Capable
FOT - Follow-on Operational Test
FPIF - Fixed Price Incentive Firm
FRP - Full Rate Production
HEMP - High-Altitude Electromagnetic Pulse
IA - Information Assurance
IAW - In Accordance With
IEMATS - Improved Emergency Message Automatic Transmission System
IER - Information Exchange Requirement
ISD - Instructional Systems Development
KPP - Key Performance Parameter
LDR - Low Data Rate

LDTO - Lead Developmental Test Organization
LRIP - Low Rate Initial Production
MEECN - Minimum Essential Emergency Communications Network
MMA - Milstar Messaging Application
MMPU - Minuteman MEECN Program Update
MPSS - Mission Planning Sub System
MRT - Mean Repair Time
NAS - Naval Air Station
NAST-T - Networked AEHF Satellite Test Tool
NC3 - Nuclear Command, Control & Communications
NMT - Navy Multi-Band Terminal
NPES - Nuclear Planning and Execution System
NRB - Navy Report Back
NSV - Nuclear Survivability and Vulnerability
OIPT - Overarching Integrated Product Team
OPAF - Other Procurement, Air Force
OPU - Operator Processing Unit
OT&E - Operational Test & Evaluation
PCMR - Probability of Correct Message Receipt
PNVC - Presidential and National Voice Conferencing
POTUS - President of the United States
SCAMP - Single Channel, Anti-jam, Man-Portable Terminal
SCIS - Secure Communications Integrated System
SECDEF - Secretary of Defense
SECN - Survivable Emergency Conferencing Network
SMART-T - Secure Mobile Anti-Jam Reliable Tactical Terminal
STIG - Security Technical Implementation Guidance
TO - Technical Order
TT&C - Telemetry, Tracking & Control
UFO-E/EE - UHF Follow On - EHF/EHF Enhanced
UHF - Ultra High Frequency
USSTRATCOM - United States Strategic Command
XDR - eXtended Data Rate

FET

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Network Ready				
The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures. The system must also satisfy the technical requirements for Net-Centric military operations to include 1) Solution architecture products compliant with DoD Enterprise Architecture based on integrated DoD Defense Architecture Framework (DoDAF) content, including specified operational effective information exchanges 2) Compliant with Net-centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD Information Enterprise Architecture (DoD IEA), excepting tactical and non-operational (OP) communications 3) Compliant with GIG Technical Guidance (GTG) to include Information Technology (IT) standards identified in the Standards Profile View (StdV-1) and implementation guidance GIG Enterprise Service Profiles (GESPs)	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures. The system must also satisfy the technical requirements for Net-Centric military operations to include 1) Solution architecture products compliant with DoD Enterprise Architecture based on integrated DoD Defense Architecture Framework (DoDAF) content, including specified operational effective information exchanges 2) Compliant with Net-centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD Information Enterprise Architecture (DoD IEA), excepting tactical and non-operational (OP) communications 3) Compliant with GIG Technical Guidance (GTG) to include Information Technology (IT) standards identified in the Standards Profile View (StdV-1) and implementation guidance GIG Enterprise Service Profiles (GESPs)	The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures. The system must also satisfy the technical requirements for transition to Net-Centric military operations to include 1) Solution architecture products compliant with DoD Enterprise Architecture based on integrated DoD Defense Architecture Framework (DoDAF) content, including specified operational effective information exchanges 2) Compliant with Net-centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD DoD IEA, excepting tactical and non-OP communications 3) Compliant GTG to include IT standards identified in the StdV-1 and implementation guidance of GESPs necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views 4) Information	TBD	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures. The system must also satisfy the technical requirements for Net-Centric military operations to include 1) Solution architecture products compliant with DoD Enterprise Architecture based on integrated DoD Defense Architecture Framework (DoDAF) content, including specified operational effective information exchanges 2) Compliant with Net-centric Data Strategy and Net-Centric Services Strategy, and the principles and rules identified in the DoD Information Enterprise Architecture (DoD IEA), excepting tactical and non-operational (OP) communications 3) Compliant with GIG Technical Guidance (GTG) to include Information Technology (IT) standards identified in the Standards Profile View (StdV-1) and implementation guidance GIG Enterprise Service Profiles (GESPs)

necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an Authorization to Operate (ATO) by the Designated Accrediting Authority (DAA), and 5) Supportability requirements to include Selective Availability Anti-spoofing Module (SAASM), Spectrum and Joint Tactical Radio System (JTRS) requirements.	necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an Authorization to Operate (ATO) by the Designated Accrediting Authority (DAA), and 5) Supportability requirements to include Selective Availability Anti-spoofing Module (SAASM), Spectrum and Joint Tactical Radio System (JTRS) requirements.	assurance requirements including availability, integrity, authentication, confidentiality, and non -repudiation, and issuance of an Interim Authorization to Operate (IATO) or ATO by the DAA, and 5) Supportability requirements to include Selective Availability Anti-spoofing Module (SAASM), Spectrum and JTRS requirements.		necessary to meet all operational requirements specified in the DoD Enterprise Architecture and solution architecture views 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an Authorization to Operate (ATO) by the Designated Accrediting Authority (DAA), and 5) Supportability requirements to include Selective Availability Anti-spoofing Module (SAASM), Spectrum and Joint Tactical Radio System (JTRS) requirements.
Strategic Services				
Terminals supporting nuclear/strategic operations will enable emergency action message dissemination while meeting the Probability of Correct Message Receipt (PCMR) requirements stated in Appendix F to Enclosure A CJCSI) 6811.01. Each Nuclear Command Center node or force element platform must be able to simultaneously support all services assigned to that node/platform as mandated in the Emergency Action Procedures of the Joint Staff directed networks and the USSTRATCOM Network Operating Instruction for	Terminals supporting nuclear/strategic operations will enable emergency action message dissemination while meeting the Probability of Correct Message Receipt (PCMR) requirements stated in Appendix F to Enclosure A CJCSI) 6811.01. Each Nuclear Command Center node or force element platform must be able to simultaneously support all services assigned to that node/platform as mandated in the Emergency Action Procedures of the Joint Staff directed networks and the USSTRATCOM Network Operating Instruction for	(T=O) Terminals supporting nuclear/strategic operations will enable emergency action message dissemination while meeting the Probability of Correct Message Receipt (PCMR) requirements stated in Appendix F to Enclosure A CJCSI) 6811.01. Each Nuclear Command Center node or force element platform must be able to simultaneously support all services assigned to that node/platform as mandated in the Emergency Action Procedures of the Joint Staff directed networks and the	TBD	Terminals supporting nuclear/strategic operations will enable emergency action message dissemination while meeting the Probability of Correct Message Receipt (PCMR) requirements stated in Appendix F to Enclosure A CJCSI) 6811.01. Each Nuclear Command Center node or force element platform must be able to simultaneously support all services assigned to that node/platform as mandated in the Emergency Action Procedures of the Joint Staff directed networks and the USSTRATCOM Network Operating Instruction for

USSTRATCOM directed networks. FE platforms will be required to perform this function with a single FAB-T.	USSTRATCOM directed networks. FE platforms will be required to perform this function with a single FAB-T.	USSTRATCOM Network Operating Instruction for USSTRATCOM directed networks. FE platforms will be required to perform this function with a single FAB-T.		USSTRATCOM directed networks. FE platforms will be required to perform this function with a single FAB-T.
Terminal Survivability				
Terminals supporting nuclear operations must be fully mission capable up to the maximum nuclear environment that the platform is expected to survive. Any recovery from circumvention required for a dose rate event will not be part of the Emergency Action Message (EAM) transmission timeline.	Terminals supporting nuclear operations must be fully mission capable up to the maximum nuclear environment that the platform is expected to survive. Any recovery from circumvention required for a dose rate event will not be part of the Emergency Action Message (EAM) transmission timeline.	(T=O) Terminals supporting nuclear operations must be fully mission capable up to the maximum nuclear environment that the platform is expected to survive. Any recovery from circumvention required for a dose rate event will not be part of the Emergency Action Message (EAM) transmission timeline.	TBD	Terminals supporting nuclear operations must be fully mission capable up to the maximum nuclear environment that the platform is expected to survive. Any recovery from circumvention required for a dose rate event will not be part of the Emergency Action Message (EAM) transmission timeline.
Capacity				
The FET, in conjunction with ancillary cryptographic equipment, will support up to seven simultaneous protected EHF networks (Point-to-Point [PTP] calls, conference networks, reportback service, and simplex broadcast service). Terminals will include all equipment necessary to accept system data rates defined in the Milstar and AEHF satellite system ORDs and EPS CDD as described in Table 4 of the CDD.	The FET, in conjunction with ancillary cryptographic equipment, will support up to seven simultaneous protected EHF networks (Point-to-Point [PTP] calls, conference networks, reportback service, and simplex broadcast service). Terminals will include all equipment necessary to accept system data rates defined in the Milstar and AEHF satellite system ORDs and EPS CDD as described in Table 4 of the CDD.	(T=O) The FET, in conjunction with ancillary cryptographic equipment, will support up to seven simultaneous protected EHF networks (Point-to-Point [PTP] calls, conference networks, reportback service, and simplex broadcast service). Terminals will include all equipment necessary to accept system data rates defined in the Milstar and AEHF satellite system ORDs and EPS CDD as described in Table 4 of the CDD.	TBD	The FET, in conjunction with ancillary cryptographic equipment, will support up to seven simultaneous protected EHF networks (Point-to-Point [PTP] calls, conference networks, reportback service, and simplex broadcast service). Terminals will include all equipment necessary to accept system data rates defined in the Milstar and AEHF satellite system ORDs and EPS CDD as described in Table 4 of the CDD.
Sustainment				
The FAB-T FET must meet a Reliability, Maintainability and	The FAB-T FET must meet a Reliability, Maintainability and	The FAB-T FET must meet a Reliability, Maintainability and	TBD	The FAB-T FET must meet a Reliability, Maintainability and

Dependability requirement of 0.9923. Mean Repair Time (MRT) is the average on -equipment, organizational level corrective maintenance time to return a system to operational status. The MRT (excluding the antenna/pedestal) will not exceed 15 minutes. MRT will be achievable in a deployed environment.	Dependability requirement of 0.9923. Mean Repair Time (MRT) is the average on -equipment, organizational level corrective maintenance time to return a system to operational status. The MRT (excluding the antenna/pedestal) will not exceed 15 minutes. MRT will be achievable in a deployed environment.	Dependability requirement of 0.9923. Mean Repair Time (MRT) is the average on-equipment, organizational level corrective maintenance time to return a system to operational status. The MRT (excluding the antenna/pedestal) should not exceed 30 minutes. MRT will be achievable in a deployed environment.		Dependability requirement of 0.9923. Mean Repair Time (MRT) is the average on -equipment, organizational level corrective maintenance time to return a system to operational status. The MRT (excluding the antenna/pedestal) will not exceed 15 minutes. MRT will be achievable in a deployed environment.
Training				
Contractor is developing Type 1 operator and maintainer course material along with Computer Based Training as part of the development contract. Training materials will be supplied to all services. A joint Training Program need not be developed.	Contractor is developing Type 1 operator and maintainer course material along with Computer Based Training as part of the development contract. Training materials will be supplied to all services. A joint Training Program need not be developed.	(T=O) Contractor is developing Type 1 operator and maintainer course material along with Computer Based Training as part of the development contract. Training materials will be supplied to all services. A joint Training Program need not be developed.	TBD	Contractor is developing Type 1 operator and maintainer course material along with Computer Based Training as part of the development contract. Training materials will be supplied to all services. A joint Training Program need not be developed.

Requirements Reference

CDD dated February 15, 2013

Change Explanations

None

Acronyms and Abbreviations

AEHF - Advanced Extremely High Frequency
ATO - Authorization to Operate
CJCSI - Chairman Joint Chiefs of Staff Instruction
DAA - Designated Accrediting Authority
DoDAF - DoD Defense Architecture Framework
DoDIEA - DoD Information Enterprise Architecture
EAM - Emergency Action Message
EHF - Extremely High Frequency
EPS - Enhanced Polar System
FE - Force Element
FET - Force Element Terminal
GESP - GIG Enterprise Service Profile
GIG - Global Information Grid
GTG - GIG Technical Guidance
JTRS - Joint Tactical Radio System
MRT - Mean Repair Time
PCMR - Probability of Correct Message Receipt
PTP - Point-to-Point
SAASM - Selective Availability Anti-spoofing Module
USSTRATCOM - United States Strategic Command

Track to Budget

CPT

RDT&E

Appn		BA	PE		
Air Force	3600	07	0303001F		
	Project		**Name**		
	672490		Family of Advanced BLoS Terminals (FAB-T)	(Shared)	(Sunk)
Air Force	3600	07	0303601F		
	Project		**Name**		
	672487		MILSATCOM Terminals	(Shared)	(Sunk)
	672489		FAB-T Alternative		(Sunk)
	672490		Family of Adv Beyond Line of Sight Terminals (FAB-T)		(Sunk)

Procurement

Appn		BA	PE		
Air Force	3010	06	0303601F		
	Line Item		**Name**		
	000999		Initial Spares/Repair Parts	(Shared)	(Sunk)
Air Force	3010	06	0303001F		
	Line Item		**Name**		
	000999		Initial Spares/Repair Parts	(Shared)	(Sunk)
Air Force	3010	06	1203001F		
	Line Item		**Name**		
	000999		Initial Spares/Repair Parts	(Shared)	
Air Force	3010	05	0303001F		
	Line Item		**Name**		
	FBLOST		Family of Beyond Line-of-Sight Terminals		(Sunk)
Air Force	3010	05	0303601F		
	Line Item		**Name**		
	FBLOST		Family of Beyond Line-of-Sight Terminals		(Sunk)
Air Force	3010	05	1203001F		
	Line Item		**Name**		
	FBLOST		Family of Beyond Line-of-Sight Terminals		
Air Force	3010	05	0303601F		
	Line Item		**Name**		
	OTHACF		Other Aircraft	(Shared)	(Sunk)
Air Force	3021	01	0303001F		
	Line Item		**Name**		

	FBLOST		Family of Advanced Beyond Line of Sight Terminals		(Sunk)
Air Force	3021	01	1203001F		
	Line Item		Name		
	FBLOST		Family of Beyond Line-of-Sight Terminals	(Shared)	
Air Force	3021	02	0303001F		
	Line Item		Name		
	SSPARE		Initial Spares/Repair Parts	(Shared)	(Sunk)
Air Force	3021	02	1203001F		
	Line Item		Name		
	SSPARE		Initial Spares/Repair Parts	(Shared)	
Air Force	3080	03	0303601F		
	Line Item		Name		
	836700		Family of Beyond Line-of-Sight Terminals		(Sunk)
Air Force	3080	03	0303001F		
	Line Item		Name		
	836700		Family of Beyond Line-of-Sight Terminals		(Sunk)
Air Force	3080	03	0303601F		
	Line Item		Name		
	836780		MILSATCOM Space	(Shared)	(Sunk)
Air Force	3080	05	0303601F		
	Line Item		Name		
	861900		Spares and Repair Parts	(Shared)	(Sunk)
Air Force	3080	05	0303001F		
	Line Item		Name		
	861900		Spares and Repair Parts	(Shared)	(Sunk)

Notes

FAB-T shares the Other Aircraft (OTHACF) line item with other modification programs. Procurement funding for six terminals for the President of the United States aircraft are included in OTHACF line item. Procurement funding for all other FAB-T airborne terminals are included in the Family of Beyond Line-of-Sight Terminals (FBLOST) line item. FAB-T shares the 000999 SSPARE Initial Spares line item with other programs, and shares 836780 with other Military Satellite Communication (MILSATCOM) programs.

FET

RDT&E

Appn		BA	PE		
Air Force	3600	07	0303001F		
	Project		Name		
	672490		Family of Adv Beyond Line of Sight Terminals (FAB-T)	(Shared)	(Sunk)
Air Force	3600	07	0303601F		

Project	Name		
672487	MILSATCOM Terminals	(Shared)	(Sunk)
672489	FAB-T Alternative		(Sunk)
672490	Family of Adv Beyond Line of Sight Terminals (FAB-T)		(Sunk)

Air Force 3600 07 1203001F

Project	Name	
672490	Family of Adv Beyond Line of Sight Terminals (FAB-T)	(Shared)

Procurement

Air Force 3010 06 0303601F

Line Item	Name		
000999	Initial Spares/Repair Parts	(Shared)	(Sunk)

Air Force 3010 06 0303001F

Line Item	Name		
000999	Initial Spares/Repair Parts	(Shared)	(Sunk)

Air Force 3010 03 0303601F

Line Item	Name	
836700	Family of Beyond Line-of-Sight Terminals	(Sunk)

Air Force 3010 03 0303001F

Line Item	Name	
836700	Family of Beyond Line-of-Sight Terminals	(Sunk)

Air Force 3010 03 0303601F

Line Item	Name		
836780	MILSATCOM Space	(Shared)	(Sunk)

Air Force 3010 05 0303601F

Line Item	Name		
861900	Spares and Repair Parts	(Shared)	(Sunk)

Air Force 3010 05 0303001F

Line Item	Name		
861900	Spares and Repair Parts	(Shared)	(Sunk)
FBLOST	Family of Beyond Line-of-Sight Terminals		(Sunk)

Air Force 3010 05 0303601F

Line Item	Name	
FBLOST	Family of Beyond Line-of-Sight Terminals	(Sunk)

Air Force 3010 05 1203001F

Line Item	Name	
FBLOST	Family of Beyond Line-of-Sight Terminals	(Shared)

Air Force 3010 05 0303601F

Line Item	Name		
OTHACF	Other Aircraft	(Shared)	(Sunk)

Air Force 3021 01 1203001F

Line Item	Name	
FBLOST	Family of Beyond Line-of-Sight Terminals	(Shared)

Notes

FAB-T shares the Other Aircraft (OTHACF) line item with other modification programs. Procurement funding for six terminals for the President of the United States aircraft are included in OTHACF line item. Procurement funding for all other FAB-T airborne terminals are included in the Family of Beyond Line-of-Sight Terminals (FBLOST) line item. FAB-T shares the 000999 and SSPARE Initial Spares line item with other programs, and shares 836780 with other Military Satellite Communication (MILSATCOM) programs.

Cost and Funding

Cost Summary - Total Program

Total Acquisition Cost - Total Program							
Appropriation	BY 2015 $M			BY 2015 $M	TY $M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	3083.1	3083.1	--	3004.6	2924.7	2924.7	2861.3
Procurement	1459.0	1459.0	--	1420.1	1688.9	1688.9	1653.4
Flyaway	--	--	--	978.8	--	--	1138.7
Recurring	--	--	--	978.8	--	--	1138.7
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	441.3	--	--	514.7
Other Support	--	--	--	123.2	--	--	141.6
Initial Spares	--	--	--	318.1	--	--	373.1
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	4542.1	4542.1	N/A	4424.7	4613.6	4613.6	4514.7

Cost and Funding

Cost Summary - CPT

Total Acquisition Cost - CPT							
Appropriation	BY 2015 $M			BY 2015 $M	TY $M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	1159.0	1159.0	1274.9	1158.6	1075.7	1075.7	1077.8
Procurement	584.0	584.0	642.4	630.7	622.4	622.4	669.4
Flyaway	--	--	--	447.6	--	--	476.2
Recurring	--	--	--	447.6	--	--	476.2
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	183.1	--	--	193.2
Other Support	--	--	--	71.4	--	--	76.1
Initial Spares	--	--	--	111.7	--	--	117.1
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1743.0	1743.0	N/A	1789.3	1698.1	1698.1	1747.2

Current APB Cost Estimate Reference

Air Force SCP dated July 07, 2015

Cost Notes

This section covers the FAB-T Program Command Post Terminal (CPT) subprogram. BY 2015 reflects the approved APB, dated March 3, 2016.

In accordance with Section 842 of the National Defense Authorization Act for FY 2017, which amended title 10 U.S.C. § 2334, the Director of Cost Assessment and Program Evaluation, and the Secretary of the military department concerned or the head of the Defense Agency concerned, must issue guidance requiring a discussion of risk, the potential impacts of risk on program costs, and approaches to mitigate risk in cost estimates for MDAPs and major subprograms. The information required by the guidance is to be reported in each SAR. This guidance is not yet available; therefore, the information on cost risk is not contained in this SAR.

Total Quantity - CPT			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	25	25	25
Procurement	84	84	84
Total	109	109	109

Quantity Notes

For CPT there is a total of 109 systems, which includes 25 Engineering Development Model (EDM)s (12 Boeing and 13 Raytheon) and 84 production systems. All quantities shown reflect the program baseline as approved in the Milestone C ADM.

Cost Summary - FET

Total Acquisition Cost - FET							
Appropriation	BY 2015 $M			BY 2015 $M	TY $M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	1924.1	1924.1	2116.5	1846.0	1849.0	1849.0	1783.5
Procurement	875.0	875.0	962.5	789.4	1066.5	1066.5	984.0
Flyaway	--	--	--	531.2	--	--	662.5
Recurring	--	--	--	531.2	--	--	662.5
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	258.2	--	--	321.5
Other Support	--	--	--	51.8	--	--	65.5
Initial Spares	--	--	--	206.4	--	--	256.0
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2799.1	2799.1	N/A	2635.4	2915.5	2915.5	2767.5

Current APB Cost Estimate Reference

Air Force SCP dated July 07, 2015

Cost Notes

In accordance with Section 842 of the National Defense Authorization Act for FY 2017, which amended title 10 U.S.C. § 2334, the Director of Cost Assessment and Program Evaluation, and the Secretary of the military department concerned or the head of the Defense Agency concerned, must issue guidance requiring a discussion of risk, the potential impacts of risk on program costs, and approaches to mitigate risk in cost estimates for MDAPs and major subprograms. The information required by the guidance is to be reported in each SAR. This guidance is not yet available; therefore, the information on cost risk is not contained in this SAR.

FY 2016 RDT&E is for the effort to complete the Cost Capability Analysis (CCA) and prepare for FET development effort for B-52, RC-135, and tanker aircraft.

The approved FYDP funding estimate for Development and Production of FET is based on the SCP, approved July 7, 2015, as modified for revised program content, including changes to quantities and airframes. A revised APB for FET has not yet been established, resulting in disconnects between PB 2019 expected program costs and quantities; however, none of these disconnects results in a program deviation or breach.

The completion of the CCA and development of an Air Force acquisition strategy is expected to further refine the quantities and costs of the FET program.

Total Quantity - FET			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	26	26	28
Procurement	132	132	109
Total	158	158	137

Quantity Notes

The 2016 APB planned for 158 FETs, which includes 26 EDM terminals (18 from the original Boeing contract and 8 for the future program) and 132 procurement terminals all associated with the future program. The FY 2019 PB funded program includes funding for 137 FETs, which includes 28 EDM terminals (18 from the original Boeing contract and 10 for the future program) and 109 procurement terminals.

A revised APB for FET has not yet been established, resulting in disconnects between PB 2019 expected program costs and quantities; however, none of these disconnects results in a program deviation or breach.

The completion of the CCA and development of an Air Force acquisition strategy is expected to further refine the quantities and costs of the FET program.

Cost and Funding

Funding Summary - Total Program

Appropriation Summary									
FY 2019 President's Budget / December 2017 SAR (TY$ M)									
Appropriation	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
RDT&E	2290.7	11.2	43.7	157.3	159.5	127.2	71.7	0.0	2861.3
Procurement	384.5	171.9	68.8	34.1	10.1	0.0	88.9	895.1	1653.4
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2019 Total	2675.2	183.1	112.5	191.4	169.6	127.2	160.6	895.1	4514.7
PB 2018 Total	2681.8	183.2	69.4	34.4	10.2	0.0	6.9	1702.6	4688.5
Delta	-6.6	-0.1	43.1	157.0	159.4	127.2	153.7	-807.5	-173.8

Cost and Funding

Funding Summary - CPT

Appropriation Summary									
FY 2019 President's Budget / December 2017 SAR (TY$ M)									
Appropriation	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
RDT&E	1077.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1077.8
Procurement	384.5	171.9	68.8	34.1	10.1	0.0	0.0	0.0	669.4
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2019 Total	1462.3	171.9	68.8	34.1	10.1	0.0	0.0	0.0	1747.2
PB 2018 Total	1468.9	172.0	69.4	34.4	10.2	0.0	0.0	0.0	1754.9
Delta	-6.6	-0.1	-0.6	-0.3	-0.1	0.0	0.0	0.0	-7.7

Quantity Summary										
FY 2019 President's Budget / December 2017 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Development	25	0	0	0	0	0	0	0	0	25
Production	0	53	29	2	0	0	0	0	0	84
PB 2019 Total	25	53	29	2	0	0	0	0	0	109
PB 2018 Total	25	56	26	2	0	0	0	0	0	109
Delta	0	-3	3	0	0	0	0	0	0	0

Funding Summary - FET

Appropriation Summary FY 2019 President's Budget / December 2017 SAR (TY$ M)									
Appropriation	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
RDT&E	1212.9	11.2	43.7	157.3	159.5	127.2	71.7	0.0	1783.5
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	88.9	895.1	984.0
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2019 Total	1212.9	11.2	43.7	157.3	159.5	127.2	160.6	895.1	2767.5
PB 2018 Total	1212.9	11.2	0.0	0.0	0.0	0.0	6.9	1702.6	2933.6
Delta	0.0	0.0	43.7	157.3	159.5	127.2	153.7	-807.5	-166.1

Funding Notes

FY 2016 RDT&E is for the effort to complete the CCA and prepare for development effort for FET on B-52, RC-135, and tanker aircraft.

The approved FYDP funding estimate for Development and Production of FET is based on the SCP, approved July 7, 2015, as modified for revised Air Force program quantities and airframes. A revised APB for FET has not yet been established, resulting in disconnects between PB 2019 expected program costs and quantities; however, none of these disconnects results in a program deviation or breach.

The completion of the CCA and development of an Air Force acquisition strategy is expected to further refine the quantities and costs of the FET program.

Quantity Summary FY 2019 President's Budget / December 2017 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Development	28	0	0	0	0	0	0	0	0	28
Production	0	0	0	0	0	0	0	7	102	109
PB 2019 Total	28	0	0	0	0	0	0	7	102	137
PB 2018 Total	26	0	0	0	0	0	0	0	132	158
Delta	2	0	0	0	0	0	0	7	-30	-21

Cost and Funding

Annual Funding By Appropriation - CPT

Annual Funding - CPT 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2001	--	--	--	--	--	--	2.1
2002	--	--	--	--	--	--	4.1
2003	--	--	--	--	--	--	20.2
2004	--	--	--	--	--	--	44.6
2005	--	--	--	--	--	--	67.3
2006	--	--	--	--	--	--	76.3
2007	--	--	--	--	--	--	75.1
2008	--	--	--	--	--	--	108.0
2009	--	--	--	--	--	--	81.7
2010	--	--	--	--	--	--	73.7
2011	--	--	--	--	--	--	102.6
2012	--	--	--	--	--	--	161.5
2013	--	--	--	--	--	--	47.6
2014	--	--	--	--	--	--	118.8
2015	--	--	--	--	--	--	73.4
2016	--	--	--	--	--	--	6.3
2017	--	--	--	--	--	--	14.5
Subtotal	25	--	--	--	--	--	1077.8

Annual Funding - CPT 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2001	--	--	--	--	--	--	2.7
2002	--	--	--	--	--	--	5.2
2003	--	--	--	--	--	--	25.1
2004	--	--	--	--	--	--	54.1
2005	--	--	--	--	--	--	79.6
2006	--	--	--	--	--	--	87.7
2007	--	--	--	--	--	--	84.1
2008	--	--	--	--	--	--	118.5
2009	--	--	--	--	--	--	88.5
2010	--	--	--	--	--	--	78.8
2011	--	--	--	--	--	--	107.7
2012	--	--	--	--	--	--	166.6
2013	--	--	--	--	--	--	48.3
2014	--	--	--	--	--	--	118.9
2015	--	--	--	--	--	--	72.7
2016	--	--	--	--	--	--	6.2
2017	--	--	--	--	--	--	13.9
Subtotal	25	--	--	--	--	--	1158.6

Annual Funding - CPT 3010 | Procurement | Aircraft Procurement, Air Force							
		TY $M					
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2007	--	4.3	--	--	4.3	--	4.3
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	1.3	--	--	1.3	--	1.3
2011	--	--	--	--	--	--	--
2012	--	3.7	--	--	3.7	--	3.7
2013	--	4.6	--	--	4.6	--	4.6
2014	--	1.9	--	--	1.9	--	1.9
2015	9	47.7	--	--	47.7	18.5	66.2
2016	8	40.0	--	--	40.0	11.0	51.0
2017	1	2.6	--	--	2.6	5.6	8.2
2018	3	19.7	--	--	19.7	3.9	23.6
2019	2	11.7	--	--	11.7	8.7	20.4
2020	--	1.5	--	--	1.5	0.4	1.9
2021	--	1.6	--	--	1.6	--	1.6
Subtotal	23	140.6	--	--	140.6	48.1	188.7

Annual Funding - CPT 3010 | Procurement | Aircraft Procurement, Air Force							
		BY 2015 $M					
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2007	--	4.7	--	--	4.7	--	4.7
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	1.4	--	--	1.4	--	1.4
2011	--	--	--	--	--	--	--
2012	--	3.8	--	--	3.8	--	3.8
2013	--	4.6	--	--	4.6	--	4.6
2014	--	1.9	--	--	1.9	--	1.9
2015	9	46.2	--	--	46.2	17.9	64.1
2016	8	38.1	--	--	38.1	10.5	48.6
2017	1	2.4	--	--	2.4	5.3	7.7
2018	3	18.1	--	--	18.1	3.5	21.6
2019	2	10.5	--	--	10.5	7.9	18.4
2020	--	1.3	--	--	1.3	0.4	1.7
2021	--	1.4	--	--	1.4	--	1.4
Subtotal	23	134.4	--	--	134.4	45.5	179.9

Cost Quantity Information - CPT 3010 | Procurement | Aircraft Procurement, Air Force		
Fiscal Year	**Quantity**	**End Item Recurring Flyaway (Aligned With Quantity) BY 2015 $M**
2007	--	--
2008	--	--
2009	--	--
2010	--	--
2011	--	--
2012	--	--
2013	--	--
2014	--	--
2015	9	52.6
2016	8	46.7
2017	1	5.9
2018	3	17.5
2019	2	11.7
2020	--	--
2021	--	--
Subtotal	23	134.4

Annual Funding - CPT 3080 | Procurement | Other Procurement, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2010	--	1.9	--	--	1.9	--	1.9
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	5.0	--	--	5.0	--	5.0
2014	--	0.4	--	--	0.4	2.9	3.3
2015	8	34.6	--	--	34.6	12.2	46.8
2016	--	--	--	--	--	33.1	33.1
Subtotal	8	41.9	--	--	41.9	48.2	90.1

Annual Funding - CPT 3080 | Procurement | Other Procurement, Air Force							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2010	--	2.0	--	--	2.0	--	2.0
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	5.1	--	--	5.1	--	5.1
2014	--	0.4	--	--	0.4	2.9	3.3
2015	8	34.3	--	--	34.3	12.1	46.4
2016	--	--	--	--	--	32.4	32.4
Subtotal	8	41.8	--	--	41.8	47.4	89.2

Cost Quantity Information - CPT 3080 | Procurement | Other Procurement, Air Force		
Fiscal Year	**Quantity**	**End Item Recurring Flyaway (Aligned With Quantity) BY 2015 $M**
2010	--	--
2011	--	--
2012	--	--
2013	--	--
2014	--	--
2015	8	41.8
2016	--	--
Subtotal	8	41.8

Annual Funding - CPT 3021 | Procurement | Space Procurement, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	11	31.9	--	--	31.9	20.3	52.2
2017	16	74.6	--	--	74.6	26.4	101.0
2018	26	128.3	--	--	128.3	20.0	148.3
2019	--	19.5	--	--	19.5	28.9	48.4
2020	--	30.9	--	--	30.9	1.3	32.2
2021	--	8.5	--	--	8.5	--	8.5
Subtotal	53	293.7	--	--	293.7	96.9	390.6

Annual Funding - CPT 3021 | Procurement | Space Procurement, Air Force							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	11	30.6	--	--	30.6	19.4	50.0
2017	16	70.2	--	--	70.2	24.9	95.1
2018	26	118.2	--	--	118.2	18.5	136.7
2019	--	17.6	--	--	17.6	26.2	43.8
2020	--	27.4	--	--	27.4	1.2	28.6
2021	--	7.4	--	--	7.4	--	7.4
Subtotal	53	271.4	--	--	271.4	90.2	361.6

Cost Quantity Information - CPT 3021 | Procurement | Space Procurement, Air Force		
Fiscal Year	**Quantity**	**End Item Recurring Flyaway (Aligned With Quantity) BY 2015 $M**
2016	11	56.3
2017	16	81.9
2018	26	133.2
2019	--	--
2020	--	--
2021	--	--
Subtotal	53	271.4

Annual Funding By Appropriation - FET

Annual Funding - FET 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2001	--	--	--	--	--	--	3.2
2002	--	--	--	--	--	--	6.4
2003	--	--	--	--	--	--	31.7
2004	--	--	--	--	--	--	70.1
2005	--	--	--	--	--	--	105.8
2006	--	--	--	--	--	--	119.9
2007	--	--	--	--	--	--	117.9
2008	--	--	--	--	--	--	169.7
2009	--	--	--	--	--	--	128.4
2010	--	--	--	--	--	--	115.8
2011	--	--	--	--	--	--	161.3
2012	--	--	--	--	--	--	118.7
2013	--	--	--	--	--	--	50.2
2014	--	--	--	--	--	--	7.1
2015	--	--	--	--	--	--	--
2016	--	--	--	--	--	--	6.7
2017	--	--	--	--	--	--	--
2018	--	--	--	--	--	--	11.2
2019	--	--	--	--	--	--	43.7
2020	--	--	--	--	--	--	157.3
2021	--	--	--	--	--	--	159.5
2022	--	--	--	--	--	--	127.2
2023	--	--	--	--	--	--	71.7
Subtotal	28	--	--	--	--	--	1783.5

Annual Funding - FET 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2001	--	--	--	--	--	--	4.1
2002	--	--	--	--	--	--	8.1
2003	--	--	--	--	--	--	39.4
2004	--	--	--	--	--	--	85.1
2005	--	--	--	--	--	--	125.2
2006	--	--	--	--	--	--	137.7
2007	--	--	--	--	--	--	132.0
2008	--	--	--	--	--	--	186.2
2009	--	--	--	--	--	--	139.1
2010	--	--	--	--	--	--	123.9
2011	--	--	--	--	--	--	169.3
2012	--	--	--	--	--	--	122.5
2013	--	--	--	--	--	--	50.9
2014	--	--	--	--	--	--	7.1
2015	--	--	--	--	--	--	--
2016	--	--	--	--	--	--	6.5
2017	--	--	--	--	--	--	--
2018	--	--	--	--	--	--	10.6
2019	--	--	--	--	--	--	40.5
2020	--	--	--	--	--	--	143.0
2021	--	--	--	--	--	--	142.2
2022	--	--	--	--	--	--	111.2
2023	--	--	--	--	--	--	61.4
Subtotal	28	--	--	--	--	--	1846.0

Annual Funding - FET 3021 | Procurement | Space Procurement, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2023	7	59.6	--	--	59.6	29.3	88.9
2024	29	174.5	--	--	174.5	86.3	260.8
2025	36	179.5	--	--	179.5	100.1	279.6
2026	37	177.1	--	--	177.1	83.8	260.9
2027	--	34.7	--	--	34.7	8.8	43.5
2028	--	35.1	--	--	35.1	8.3	43.4
2029	--	2.0	--	--	2.0	4.9	6.9
Subtotal	109	662.5	--	--	662.5	321.5	984.0

Annual Funding - FET 3021 | Procurement | Space Procurement, Air Force							
Fiscal Year	Quantity	BY 2015 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2023	7	49.8	--	--	49.8	24.5	74.3
2024	29	142.9	--	--	142.9	70.7	213.6
2025	36	144.2	--	--	144.2	80.4	224.6
2026	37	139.4	--	--	139.4	66.0	205.4
2027	--	26.8	--	--	26.8	6.8	33.6
2028	--	26.6	--	--	26.6	6.2	32.8
2029	--	1.5	--	--	1.5	3.6	5.1
Subtotal	109	531.2	--	--	531.2	258.2	789.4

Cost Quantity Information - FET 3021 | Procurement | Space Procurement, Air Force		
Fiscal Year	**Quantity**	**End Item Recurring Flyaway (Aligned With Quantity) BY 2015 $M**
2023	7	34.1
2024	29	141.3
2025	36	175.5
2026	37	180.3
2027	--	--
2028	--	--
2029	--	--
Subtotal	109	531.2

Low Rate Initial Production

CPT

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	7/5/2009	9/1/2015
Approved Quantity	101	53
Reference	Acquisition Strategy Production Phase Addendum	CPT-only Milestone C (MS-C) DAB
Start Year	2010	2015
End Year	2012	2017

The Current Total LRIP Quantity is more than 10% of the total production quantity because an LRIP quantity of 53 terminals is required to satisfy IOC requirements and affords schedule flexibility to accommodate a shift of FRP to the right without impacting the IOC date.

The "current total LRIP" reflects the total LRIP quantity as approved by the MDA in the ADM dated October 26, 2015.

Foreign Military Sales

CPT

None

FET

None

Nuclear Costs

CPT

None

FET

None

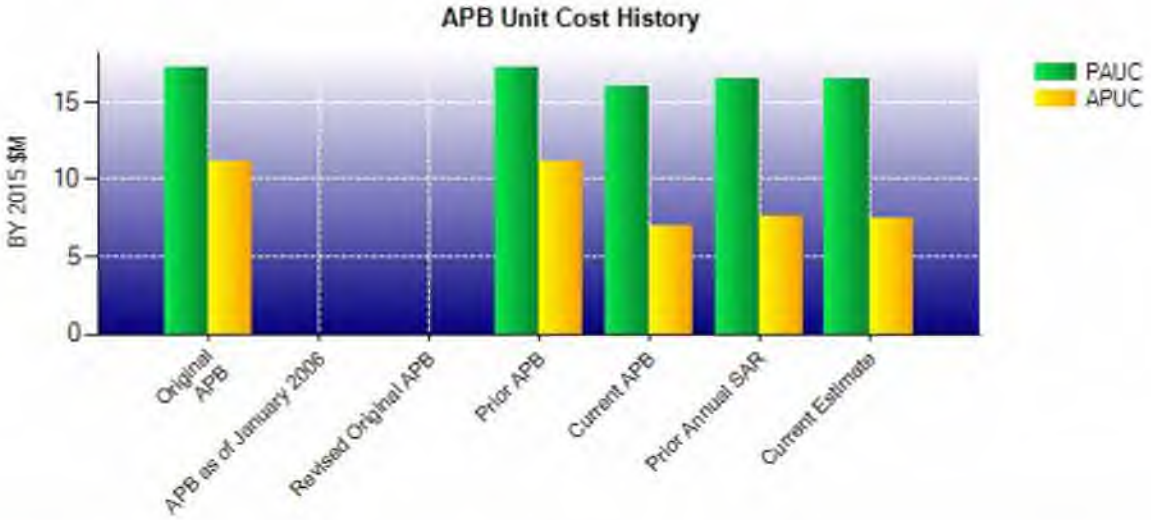
Unit Cost

CPT

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2015 $M Current UCR Baseline (Mar 2016 APB)	BY 2015 $M Current Estimate (Dec 2017 SAR)	% Change
Program Acquisition Unit Cost			
Cost	1743.0	1789.3	
Quantity	109	109	
Unit Cost	15.991	16.416	+2.66
Average Procurement Unit Cost			
Cost	584.0	630.7	
Quantity	84	84	
Unit Cost	6.952	7.508	+8.00

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2015 $M Original UCR Baseline (Dec 2007 APB)	BY 2015 $M Current Estimate (Dec 2017 SAR)	% Change
Program Acquisition Unit Cost			
Cost	1639.1	1789.3	
Quantity	95	109	
Unit Cost	17.254	16.416	-4.86
Average Procurement Unit Cost			
Cost	939.8	630.7	
Quantity	84	84	
Unit Cost	11.188	7.508	-32.89

The increase in APUC is due to requirements identified after the establishment of the revised APB dated March 3, 2016.This includes costs required for providing reinstallation of ground sites which will be fielded before the final replacement shelters are in place. It also includes increases driven by support needed for additional AEHF satellites which drives requirements beyond the current baseline. These increases do not cause an APB breach.



APB Unit Cost History					
Item	Date	BY 2015 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Dec 2007	17.254	11.188	16.589	11.370
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Dec 2007	17.254	11.188	16.589	11.370
Current APB	Mar 2016	15.991	6.952	15.579	7.410
Prior Annual SAR	Dec 2016	16.461	7.576	16.100	8.069
Current Estimate	Dec 2017	16.416	7.508	16.029	7.969

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY $M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
14.226	0.024	-2.760	0.942	0.623	3.199	0.000	-0.675	1.353	15.579

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
15.579	-0.011	0.001	0.167	0.246	-0.252	0.000	0.299	0.450	16.029

Initial SAR Baseline to Current SAR Baseline (TY $M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
8.775	-0.046	-0.770	1.058	0.000	-0.731	0.000	-0.876	-1.365	7.410

Current SAR Baseline to Current Estimate (TY $M)									
APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
7.410	-0.045	0.002	0.013	0.319	-0.118	0.000	0.388	0.559	7.969

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	N/A	N/A
Milestone C	N/A	N/A	Sep 2015	Sep 2015
IOC	N/A	Jun 2013	Dec 2019	Jun 2021
Total Cost (TY $M)	N/A	1260.2	1698.1	1747.2
Total Quantity	N/A	86	109	109
PAUC	N/A	14.653	15.579	16.029

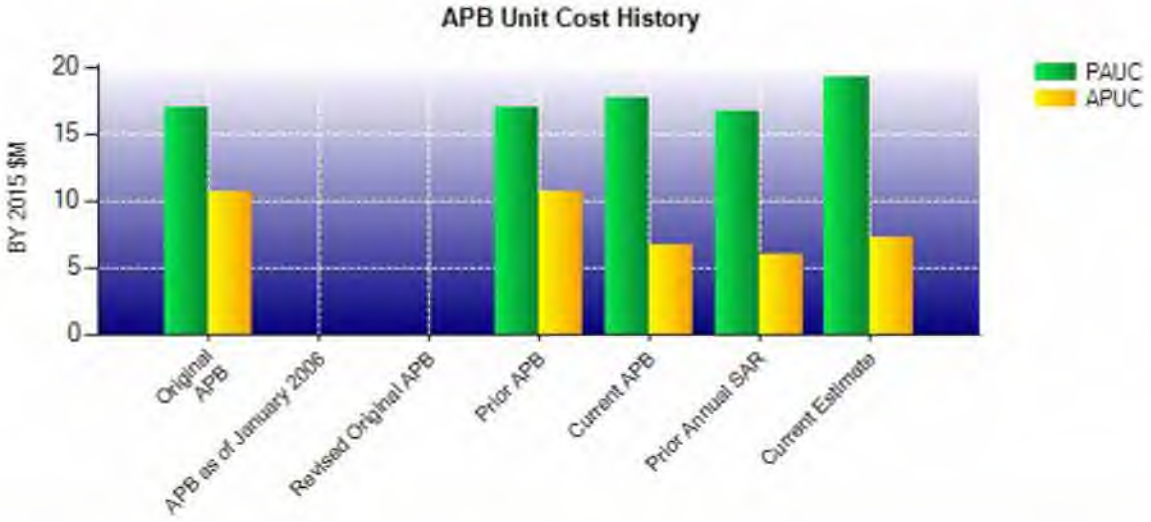
FET

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2015 $M Current UCR Baseline (Mar 2016 APB)	BY 2015 $M Current Estimate (Dec 2017 SAR)	% Change
Program Acquisition Unit Cost			
Cost	2799.1	2635.4	
Quantity	158	137	
Unit Cost	17.716	19.236	+8.58
Average Procurement Unit Cost			
Cost	875.0	789.4	
Quantity	132	109	
Unit Cost	6.629	7.242	+9.25

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2015 $M Original UCR Baseline (Dec 2007 APB)	BY 2015 $M Current Estimate (Dec 2017 SAR)	% Change
Program Acquisition Unit Cost			
Cost	2144.8	2635.4	
Quantity	127	137	
Unit Cost	16.888	19.236	+13.90
Average Procurement Unit Cost			
Cost	1204.0	789.4	
Quantity	113	109	
Unit Cost	10.655	7.242	-32.03

The unit cost calculations for current estimates of FET is based on the Service Cost Position, approved July 7, 2015, as modified for revised program content, including changes to quantities and airframes as funded in PB 2019. A revised APB for FET has not yet been established, resulting in increases in PB 2019 PAUC and APUC unit costs; however, none of these increases results in a program deviation or breach.

The completion of the Cost Capability Analysis and development of an Air Force acquisition strategy is expected to further refine the quantities and costs of the FET program.



APB Unit Cost History					
Item	Date	BY 2015 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Dec 2007	16.888	10.655	16.112	10.717
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Dec 2007	16.888	10.655	16.112	10.717
Current APB	Mar 2016	17.716	6.629	18.453	8.080
Prior Annual SAR	Dec 2016	16.715	5.903	18.567	8.080
Current Estimate	Dec 2017	19.236	7.242	20.201	9.028

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
18.453	-0.083	1.731	0.181	-0.103	0.477	0.000	-0.455	1.748	20.201

Current SAR Baseline to Current Estimate (TY $M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
8.080	-0.072	0.261	0.731	0.000	0.600	0.000	-0.572	0.948	9.028

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	N/A	N/A
Milestone C	N/A	N/A	N/A	N/A
IOC	N/A	N/A	N/A	N/A
Total Cost (TY $M)	N/A	2915.5	N/A	2767.5
Total Quantity	N/A	158	N/A	137
PAUC	N/A	18.453	N/A	20.201

Cost Variance

CPT

Summary TY $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	1075.7	622.4	--	1698.1
Previous Changes				
Economic	+2.7	-1.4	--	+1.3
Quantity	--	--	--	--
Schedule	+17.1	+0.5	--	+17.6
Engineering	--	+26.0	--	+26.0
Estimating	-18.4	-9.3	--	-27.7
Other	--	--	--	--
Support	--	+39.6	--	+39.6
Subtotal	+1.4	+55.4	--	+56.8
Current Changes				
Economic	-0.1	-2.4	--	-2.5
Quantity	--	+0.2	--	+0.2
Schedule	--	+0.6	--	+0.6
Engineering	--	+0.8	--	+0.8
Estimating	+0.8	-0.6	--	+0.2
Other	--	--	--	--
Support	--	-7.0	--	-7.0
Subtotal	+0.7	-8.4	--	-7.7
Total Changes	+2.1	+47.0	--	+49.1
CE - Cost Variance	1077.8	669.4	--	1747.2
CE - Cost & Funding	1077.8	669.4	--	1747.2

Summary BY 2015 $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	1159.0	584.0	--	1743.0
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	+16.9	--	--	+16.9
Engineering	--	+23.6	--	+23.6
Estimating	-18.1	-9.6	--	-27.7
Other	--	--	--	--
Support	--	+38.4	--	+38.4
Subtotal	-1.2	+52.4	--	+51.2
Current Changes				
Economic	--	--	--	--
Quantity	--	-0.2	--	-0.2
Schedule	--	--	--	--
Engineering	--	+0.7	--	+0.7
Estimating	+0.8	+0.5	--	+1.3
Other	--	--	--	--
Support	--	-6.7	--	-6.7
Subtotal	+0.8	-5.7	--	-4.9
Total Changes	-0.4	+46.7	--	+46.3
CE - Cost Variance	1158.6	630.7	--	1789.3
CE - Cost & Funding	1158.6	630.7	--	1789.3

Previous Estimate: December 2016

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.1
Adjustment for current and prior escalation. (Estimating)	+0.1	+0.1
Revised estimating methodology for test estimate based on actuals. (Estimating)	+0.7	+0.7
RDT&E Subtotal	+0.8	+0.7

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-2.4
Quantity variance resulting from a decrease of one terminal from 9 to 8 (Other Procurement, Air Force (OPAF)). (Quantity)	-5.2	-5.2
Total Quantity variance resulting from an increase of one terminal from 52 to 53 (Space Procurement, Air Force (SPAF)). (Subtotal)	+5.5	+6.0
Quantity variance resulting from an increase of one terminal from 52 to 53 (SPAF). (Quantity)	(+5.0)	(+5.4)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(+0.7)	(+0.8)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-0.2)	(-0.2)
Stretch-out of procurement buy profile from FY 2015 to FY 2018 (Procurement, Air Force (APAF)). (Schedule)	0.0	+0.3
Stretch-out of procurement buy profile from FY 2016 to FY 2017 (SPAF). (Schedule)	0.0	+0.3
Adjustment for current and prior escalation. (Estimating)	+1.3	+1.3
Revised estimate to reflect impact of updated terminal buy plan (APAF). (Estimating)	+0.1	-0.2
Revised estimate to reflect impact of updated terminal buy plan (SPAF). (Estimating)	-5.9	-6.7
Estimate updated to reflect impact of updated terminal buy plan (OPAF). (Estimating)	+5.2	+5.2
Adjustment for current and prior escalation. (Support)	+0.5	+0.6
Increase in Initial Spares due to updated sparing strategy (APAF). (Support)	+5.6	+5.7
Decrease in Initial Spares due to adjustment in fielding schedule for ground terminals (OPAF). (Support)	-11.0	-11.3
Decrease in Initial Spares due to adjustment in fielding schedule for ground terminals (SPAF). (Support)	-1.8	-2.0
Procurement Subtotal	-5.7	-8.4

(QR) Quantity Related

Cost Variance

FET

Summary TY $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	1849.0	1066.5	--	2915.5
Previous Changes				
Economic	+2.4	-1.1	--	+1.3
Quantity	--	--	--	--
Schedule	--	+83.8	--	+83.8
Engineering	+16.0	--	--	+16.0
Estimating	-0.4	-83.0	--	-83.4
Other	--	--	--	--
Support	--	+0.4	--	+0.4
Subtotal	+18.0	+0.1	--	+18.1
Current Changes				
Economic	-5.9	-6.8	--	-12.7
Quantity	+7.1	-157.3	--	-150.2
Schedule	-54.9	-4.1	--	-59.0
Engineering	-30.1	--	--	-30.1
Estimating	+0.3	+148.4	--	+148.7
Other	--	--	--	--
Support	--	-62.8	--	-62.8
Subtotal	-83.5	-82.6	--	-166.1
Total Changes	-65.5	-82.5	--	-148.0
CE - Cost Variance	1783.5	984.0	--	2767.5
CE - Cost & Funding	1783.5	984.0	--	2767.5

Summary BY 2015 $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	1924.1	875.0	--	2799.1
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+15.4	--	--	+15.4
Estimating	-77.8	-61.0	--	-138.8
Other	--	--	--	--
Support	--	-34.8	--	-34.8
Subtotal	-62.4	-95.8	--	-158.2
Current Changes				
Economic	--	--	--	--
Quantity	+6.2	-86.4	--	-80.2
Schedule	+4.6	--	--	+4.6
Engineering	-26.8	--	--	-26.8
Estimating	+0.3	+119.7	--	+120.0
Other	--	--	--	--
Support	--	-23.1	--	-23.1
Subtotal	-15.7	+10.2	--	-5.5
Total Changes	-78.1	-85.6	--	-163.7
CE - Cost Variance	1846.0	789.4	--	2635.4
CE - Cost & Funding	1846.0	789.4	--	2635.4

Previous Estimate: December 2016

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-5.9
Quantity variance resulting from an increase in estimated future EDM terminals from eight to 10 due to updated program requirements. (Quantity)	+6.2	+7.1
Acceleration of development effort from FY 2023 - FY 2030 to FY 2019 - FY 2023 due to program schedule refinement. (Schedule)	+4.6	-54.9
Reduction due to the removal of the B-2 platform. (Engineering)	-26.8	-30.1
Adjustment for current and prior escalation. (Estimating)	+0.3	+0.3
RDT&E Subtotal	-15.7	-83.5

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-6.8
The Quantity Variance is caused by a descope of the B-2 and RC-135 ground platforms from the program, removing 23 terminals from the program and the realignment of FET APAF funding to SPAF (APAF). (Quantity)	-463.4	-627.6
The Quantity Variance is caused by a descope of the B-2 and RC-135 ground platforms from the program, removing 23 terminals from the program and the realignment of FET APAF funding to SPAF (SPAF). (Quantity)	+377.0	+470.3
Acceleration of procurement effort from FY 2027 - FY 2034 to FY 2023 - FY 2029 due to changes to program schedule (SPAF). (Schedule)	0.0	-4.1
Revised estimate to reflect Air Force position as a result of the removal of B-2 requirement (APAF). (Estimating)	+7.5	+8.2
Revised estimate to reflect Air Force position as a result of the removal of B-2 requirement (SPAF). (Estimating)	+112.2	+140.2
Decrease in Initial Spares due to the descope of the B-2 and RC-135 ground platforms from the baseline, removing 23 terminals from the baseline and the realignment of FET APAF funding to SPAF (APAF). (Support)	-194.7	-263.6
Increase in Initial Spares due to the descope of the B-2 and RC-135 ground platforms from the baseline, removing 23 terminals from the baseline and the realignment of FET APAF funding to SPAF (SPAF). (Support)	+191.4	+236.0
Decrease in Other Support due to the descope of the B-2 and RC-135 ground platforms from the program, removing 23 terminals from the baseline and the realignment of FET APAF funding to SPAF (APAF). (Support)	-65.7	-92.3
Increase in Other Support due to the descope of the B-2 and RC-135 ground platforms from the program, removing 23 terminals from the baseline and the realignment of FET APAF funding to SPAF (SPAF). (Support)	+45.9	+57.1
Procurement Subtotal	+10.2	-82.6

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: FAB-T CPT Development
Contractor: Raytheon
Contractor Location: 1001 Boston Post Road E
Marlborough, MA 01752-2377
Contract Number: FA8307-12-C-0013
Contract Type: Firm Fixed Price (FFP)
Award Date: September 07, 2012
Definitization Date: April 10, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
70.0	N/A	13	221.6	N/A	13	221.6	221.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to an error in reporting on the last SAR. The original Best Estimated Quantity (BEQ - reported here as "Initial Target Price" due to DAMIR system parameters) on the Development contract was $70M. On the last SAR report, it was incorrectly recorded as $215.3M.

"Current Contract Price" changed from $219.2M to $221.6M as a result of added work effort and the award of contract actions.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because the cost or incentive portion does not meet the threshold requirements for earned value management reporting.

Notes

Thirteen Engineering Development Models will be produced under the contract; six will be delivered to the Government and seven will be retained by the contractor for testing purposes.

Contract Identification

Appropriation: Procurement
Contract Name: FAB-T CPT Production
Contractor: Raytheon
Contractor Location: 1001 Boston Post Road East
Marlborough, MA 01752-2377
Contract Number: FA8705-13-C-0005
Contract Type: Firm Fixed Price (FFP)
Award Date: September 27, 2013
Definitization Date: June 02, 2014

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
298.5	N/A	84	304.6	N/A	84	304.6	304.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to procurement of additional terminals with modification kits in July 2016.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Notes

Target, Contractor, and Program Manager Price changed from $298.5M to $304.6M due to the procurement of additional terminals with modification kits in July 2016. (Quantity did not change as the number of terminals did not change, the price increased because modification kit costs are greater than new antenna costs.)

Deliveries and Expenditures

CPT

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	16	16	25	64.00%
Production	8	8	84	9.52%
Total Program Quantity Delivered	24	24	109	22.02%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	1747.2	Years Appropriated	18
Expended to Date	1126.2	Percent Years Appropriated	85.71%
Percent Expended	64.46%	Appropriated to Date	1634.2
Total Funding Years	21	Percent Appropriated	93.53%

The above data is current as of February 12, 2018.

Total Command Post Terminal (CPT)s Quantity for Development includes 12 Boeing Engineering Development Model (EDM)s and 13 Raytheon EDMs. Planned/Actual reflect 12 deliveries under the Boeing contract and four deliveries to date under the Raytheon contract. All eight Planned/Actual Production terminals are under the Raytheon contract. The first production CPT was terminal delivered in May 2017.

FET

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	18	18	28	64.29%
Production	0	0	109	0.00%
Total Program Quantity Delivered	18	18	137	13.14%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	2767.5	Years Appropriated	18
Expended to Date	1210.8	Percent Years Appropriated	62.07%
Percent Expended	43.75%	Appropriated to Date	1224.1
Total Funding Years	29	Percent Appropriated	44.23%

The above data is current as of February 12, 2018.

Total Program Quantity reflects 28 total FET EDM systems, which includes 18 Boeing FET systems delivered to date and 10 additional FET EDMs required to complete the EDM development effort per the Service Cost Position approved July 7, 2015, as modified by the Cost Capability Analysis recommended quantity.

Operating and Support Cost

CPT

Cost Estimate Details

Date of Estimate:	July 07, 2015
Source of Estimate:	SCP
Quantity to Sustain:	84
Unit of Measure:	Terminals
Service Life per Unit:	33.00 Years
Fiscal Years in Service:	FY 2017 - FY 2049

Costs based on the SCP approved July 7, 2015 in support of Milestone C. FAB-T CPT O&S consists of 84 Production Systems; there are 25 Engineering Development Models (EDMs) that will not be sustained after the program transitions to O&S. Interim Contractor Support costs are included in the Production contract and are not included in the O&S Cost.

Sustainment Strategy

The FAB-T Command Post Terminal (CPT) product support strategy is structured to optimize customer support and system availability, and minimize ownership costs and logistics footprint, while making the best use of public and private partnership capabilities. The FAB-T maintenance concept employs two levels of support: Organizational Level Maintenance (O-Level) and Depot Level (D-Level). O-Level support is provided by organic O&M personnel starting with successful installation and government acceptance of the first LRIP terminal. Terminals are supported with initial spares, Technical Orders, training, and technical support. The Ground Fixed CPTs will replace existing Milstar terminals in existing fixed facilities. Additionally, FAB-T does not require the creation of a new Air Force Specialty Code for O&M. The production contract includes four consecutive 12-month options for D-Level Interim Contract Support which continues until the transition to organic depot level support or a combination of public and private partnership occurs. The FAB-T technical data rights strategy is structured to support full organic and/or competitive contractor logistics support in the future with specifications, software documents, system drawings, and other engineering data to facilitate future competition for sustainment. The Business Case Analysis (BCA) is ongoing to investigate benefits of consolidating Advanced Extremely High Frequency terminal sustainment.

Antecedent Information

The Antecedent System is the Milstar CPT. For CPTs, FAB-T is a replacement terminal for the existing Milstar CPTs at ground (fixed and mobile) sites and E-4 and E-6 airborne platforms. There are 82 Milstar terminals, each with an expected service life of 18 years. Antecedent Costs were not normalized to reflect operational/capability differences between the FAB-T and Milstar terminals.

The antecedent Milstar CPT POE is from April 2003 finalized in Air Force Space Command's budget request to Headquarters Air Force.

Annual O&S Costs BY2015 $K		
Cost Element	**CPT Average Annual Cost Per Terminals**	**MILSTAR CPT (Antecedent) Average Annual Cost Per Terminal**
Unit-Level Manpower	29.208	0.000
Unit Operations	68.163	234.000
Maintenance	115.363	0.000
Sustaining Support	86.128	180.000
Continuing System Improvements	105.229	0.000
Indirect Support	25.657	0.000
Other	0.000	0.000
Total	429.748	414.000

Item	Total O&S Cost $M			
	CPT			MILSTAR CPT (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	1191.3	1310.4	1191.3	N/A
Then Year	1788.3	N/A	1788.3	N/A

Equation to Translate Annual Cost to Total Cost

Total O&S Cost = service life per system * number of systems * unitized cost

Total O&S Cost = 33 years per terminal * 84 terminals * $429.748K

O&S Cost Variance		
Category	**BY 2015 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2016 SAR	1191.3	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	1191.3	

Disposal Estimate Details

Date of Estimate: July 07, 2015

Source of Estimate: SCP

Disposal/Demilitarization Total Cost (BY 2015 $M): Total costs for disposal of all Terminals are 8.5

Updated from 2009 CAPE ICE to 2015 SCP used in support of Milestone C. 2009 estimate did not include disposal costs.

FET

Cost Estimate Details

Date of Estimate: December 15, 2017
Source of Estimate: POE
Quantity to Sustain: 109
Unit of Measure: Terminals
Service Life per Unit: 26.00 Years
Fiscal Years in Service: FY 2024 - FY 2049

The December 15, 2017 POE is based upon the July 7, 2015 SCP, modified for revised program content, including changes to quantities and airframes. FAB-T FET O&S consists of 109 Production terminals; there are 28 EDM terminals that will not be sustained after the program transitions to O&S. ICS costs are included in the Production contract and are not included in the O&S Cost.

The Air Force is currently working to determine the FET strategy; therefore, quantities, specific fiscal year placed in service, and fiscal year retired are notional pending an approved strategy.

Sustainment Strategy

The FAB-T FET sustainment strategy cannot be determined until the overall acquisition strategy is defined. Preliminary program funding for a notional FET program was provided in the FY 2019 PB. The FET Cost Capability Analysis concluded in December 2017 and is the first step in informing the acquisition strategy.

Antecedent Information

No Antecedent

Annual O&S Costs BY2015 $K		
Cost Element	**FET Average Annual Cost Per Terminals**	**No Antecedent (Antecedent)**
Unit-Level Manpower	20.356	--
Unit Operations	0.000	--
Maintenance	221.797	--
Sustaining Support	0.000	--
Continuing System Improvements	37.431	--
Indirect Support	15.555	--
Other	--	--
Total	295.139	--

Item	Total O&S Cost $M			
	FET			No Antecedent (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
Base Year	896.8	986.5	836.4	0.0
Then Year	1438.4	N/A	1335.4	N/A

Equation to Translate Annual Cost to Total Cost

Total O&S Cost = service life per system * number of systems * unitized cost

Total O&S Cost = 26 years per terminal * 109 terminals * $295.139K

O&S Cost Variance		
Category	**BY 2015 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2016 SAR	896.8	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	-60.4	Decrease due to descope of the B-2 and RC-135 ground platforms from the program, removing 23 terminals from the program.
Other	0.0	
Total Changes	-60.4	
Current Estimate	836.4	

Disposal Estimate Details

Date of Estimate: December 15, 2017

Source of Estimate: POE

Disposal/Demilitarization Total Cost (BY 2015 $M): Total costs for disposal of all Terminals are 11.0

The estimate for FET is based on the SCP, approved July 7, 2015, as modified for revised program content, including changes to quantities and airframes.